



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/535,409

10/06/2005

Wolfgang Rauscher

WOLF3003/JEK

6000

23364 7590 07/21/2009

BACON & THOMAS, PLLC

625 SLATERS LANE

FOURTH FLOOR

ALEXANDRIA, VA 22314-1176

EXAMINER

WANG, CLAIRE X

ART UNIT

PAPER NUMBER

2624

MAIL DATE

DELIVERY MODE

07/21/2009

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/535,409	<b>Applicant(s)</b> RAUSCHER ET AL.	
	<b>Examiner</b> CLAIRE WANG	<b>Art Unit</b> 2624	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 23 March 2009.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1/18 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

**DETAILED ACTION**

***Response to Amendment***

1. Applicants' response to the last Office Action, filed on March 23<sup>rd</sup>, 2009 has been entered and made of record.
2. In view of the Applicant's arguments and amendments, the rejection under 35 U.S.C. 112 rejection second paragraph (claims 6, 7, and 11) is expressly withdrawn.
3. Applicant's amendment has necessitated new grounds of rejection. Thus, new grounds of rejection are presented in this Office Action.

***Response to Arguments***

4. Applicant's arguments filed March 23<sup>rd</sup>, 2009 have been fully considered but they are not persuasive.

a. In response to applicant's remark that claim 1 has been amended to overcome the 35 U.S.C. 101 rejection by meeting the requirements of the transformation test, the examiner respectfully disagrees. It is noted that in order to meet the transformation requirement, the transformation must transform the underlying subject matter (such as an article or material) to a different state or thing. The amended claim 1 does not meet the transformation requirements because it does not physically transform the document into a different state.

Claim 1 detect the luminescence radiation from the document and then manipulates that information to determine the authenticity, however that also does not transform that data into a different state or thing since the determining the authenticity is still in the same state and thus nothing has been transformed.

b. In response to applicant's remark that the objection to claim 8 under 37 C.F.R. 1.75(c) is in proper form. It is noted that claim 8 recites "which depends on....at least one of the previous claims" (lines 1-3) is an improper multiple dependent claim. Examiner suggests amending claim 8 to exclude the line "at least one of the previous claims" in order to overcome the objection.

Art Unit: 2624

c. In response to applicant's remark that "luminance radiation" differs from Baudat's teachings because luminescence radiation is emanated if a physical system passes from an excited state into a low-energy state. It is noted that claim language is given its broadest reasonable interpretation. The specification is not measure of invention. Therefore, limitations contained therein can not be read into the claims for the purpose of avoiding the prior art. *Ir re Sporck*, 55CCPA 743, 386 F. 2d 924, 155 USPQ 687 (1968).

d. In response to applicant's remark that Baudat does not teach checking whether the measuring vector is in a particular object location area. It is noted that claim language is given its broadest reasonable interpretation. The specification is not measure of invention. Therefore, limitations contained therein can not be read into the claims for the purpose of avoiding the prior art. *Ir re Sporck*, 55CCPA 743, 386 F. 2d 924, 155 USPQ 687 (1968).

***Claim Rejections - 35 USC § 101***

5. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 1-14 are rejected under 35 U.S.C. 101 as not falling within one of the four statutory categories of invention. Supreme Court precedent<sup>1</sup> and recent Federal Circuit decisions<sup>2</sup> indicate that a statutory “process” under 35 U.S.C. 101 must (1) be tied to another statutory category (such as a particular apparatus), or (2) transform underlying subject matter (such as an article or material) to a different state or thing. While the instant claims recite a series of steps or acts to be performed, the claims neither transform underlying subject matter nor positively tie to another statutory category that accomplishes the claimed method steps, and therefore do not qualify as a statutory process.

---

<sup>1</sup> *Diamond v. Diehr*, 450 U.S. 175, 184 (1981); *Parker v. Flook*, 437 U.S. 584, 588 n.9 (1978); *Gottschalk v. Benson*, 409 U.S. 63, 70 (1972); *Cochrane v. Deener*, 94 U.S. 780, 787-88 (1876).

<sup>2</sup> *In re Bilski*, 88 USPQ2d 1385 (Fed. Cir. 2008).

***Claim Rejections - 35 USC § 112***

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claim 8 is objected to under 37 CFR 1.75c as being in improper form because a multiple dependent claim on any of the previous claims. See MPEP 608.01(n).

Accordingly, claim 8 has not been further treated on the merits.

***Claim Rejections - 35 USC § 102***

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

9. Claims 1-11 and 15 are rejected under 35 U.S.C. 102(b) as being anticipated by Baudat (5,678,677).

As to claim 1, Baudat teaches a method for checking value documents having an authenticity feature in the form of at least one luminescent substance, the value document being irradiated with light and the luminescence radiation emanating from the value document detected with spectral resolution to determine whether the authenticity feature is present in the value document, comprising the steps forming a measuring vector from measuring values corresponding to different frequencies and/or frequency domains of the luminescence radiation (in each area of the banknote, there may be measurements of different features such as reflectance intensity of lights, these measurements are then delivered to the preliminary system where for each scanning point, a k-dimensional local feature vector is formed; Col. 4, lines 4-16); and doing an object allocation of the measuring vector to one of a plurality of given reference vectors corresponding to different authenticity features by allocating at least one object allocation area to each reference vector and checking which object allocation area the



Art Unit: 2624

measuring vector located in (each component of each of the k-dimensional vectors can then be compared with a stored range and then classified; Col. 4, lines 43-51).

As to claim 15, it is the apparatus claim of claim 1. Please see above for detail analysis.

As to claim 2, Baudat teaches a step for checking whether the amount of the measuring vector is greater than a given reference value (the greatest magnitude component of the surface feature vector is compared with a limiting parameter; Col. 7, lines 26-31).

As to claim 3, Baudat teaches wherein the step of checking whether the amount of the measuring vector is greater than a given reference value is carried out before the step of allocating the measuring vector to one of a plurality of given reference vectors (the comparison step is the first step and it is done before any values are assigned to the target vector; Col. 7, lines 48-49).

As to claim 4, Baudat teaches wherein the measuring vector and the reference vectors are normalized (transformation both normalize and compresses the data; Col. 5, lines 24-26).

As to claim 5, Baudat teaches wherein the object allocation of the measuring vector to one of the reference vectors is done by comparing the measuring vector with a plurality of reference vectors and/or with at least one quantity which depends on at least two reference vectors in (each component of each of the k-dimensional vectors can then be compared with a stored range and then classified; Col. 4, lines 43-51).

As to claim 6, Baudat teaches wherein the object allocation of the measuring vector to one of the reference vectors is done by determining a smallest difference, as exemplified by the smallest distance from the measuring vector to the reference vectors (in each unit there is determined a target vector that, amongst all the target vectors of the target class, has the least value of a distance from the surface feature vector, wherein the distance is advantageously the Euclidean distance between the target vector and the surface feature vector; Col. 6, lines 34-39).

As to claim 7, Baudat teaches wherein a quantity which depends on at least two reference vectors is formed as a separation plane between the two reference vectors, as exemplified by an dimensional hyperplane between the two n-dimensional reference vectors, the separation plane separating the object allocation areas of the two reference vectors from each other (Fig. 5).

Art Unit: 2624

As to claim 9, Baudat teaches wherein the luminescence radiation is measured with time resolution on a value document to be checked, such that the comparison of measuring vector and reference vectors can be done time-dependently (real-time system; Col. 2, line 47).

As to claim 10, Baudat teaches wherein the measurement of the luminescence radiation is done only on one or more predetermined partial areas of a surface of the value document which can be predetermined denomination-specifically (scanning a bank lit by different lights, wherein different individual areas are scanned in; Col. 4, lines 4-19).

As to claim 11, Baudat teaches wherein the measuring vector comprises measuring values of an invisible spectral range (infra-red radiation; Col. 4, line 11).

As to claim 17, Baudat teaches wherein the invisible spectral range is an infrared spectral range (infra-red radiation; Col. 4, line 11).

***Claim Rejections - 35 USC § 103***

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. Claims 12-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Baudat in view of Yakhini et al. (US 7,330,606 B2 hereinafter "Yakhini").

As to claim 12, Yakhini teaches a method for extracting data from a surface (Title), wherein the data is extracted and the magnitude of the background signal is determined. Thus, Yakhini reads on the claimed wherein evaluation of the measuring values takes account of a background signal which does not come from the luminescence radiation. Therefore, it would have been obvious for one ordinarily skilled in the art at the time the invention was made to combine the classification method of Baudat with the data extraction method of Yakhini using background information in order to extract the features of interest from the background (Yakhini Col. 2, lines 63-64).

As to claim 13, Yakhini teaches wherein, for forming the measuring vector, an amount depending on the magnitude of the background signal is subtracted from the measuring values (compute, for each signal, background subtracted magnitudes for each feature; Col. 3, lines 1-2).

As to claim 14, Yakhini teaches wherein the amount is dependent on the magnitude of a minimum and/or maximum of the measuring values and/or a ratio of two measuring values (determine the ratio of background-subtracted and normalized signals for each feature; Col. 3, lines 7-10).

12. Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Baudat in view of Kurosawa et al. (5,542,518 hereinafter "Kurosawa")

As to claim 16, Baudat teaches a separation plane (Fig. 5). Kurosawa teaches a method of identifying the denominations of pieces of paper (Title), wherein hyperplane is used to identify the denominations (Col. 2, lines 44-49). Thus, Kurosawa reads on the claimed wherein the separation plane (T) is an (n-1) dimensional hyper plane. Therefore it would have been obvious for one ordinarily skilled in the art at the time the invention was made to combine the classification method of Baudat with the hyperplane of Kurosawa in order to better identify the denomination (Kurosawa Col. 2, lines 44-49).

Art Unit: 2624

13. Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Baudat in view of Ahlers et al. (US 7,092,583 B2 hereinafter "Ahlers").

As to claim 18, Ahlers teaches a method for detecting the authenticity of secured documents (Title), wherein a laser is used to project light which may be infrared, visible or ultraviolet wavelength range. Thus, Ahlers reads on the claimed wherein the invisible spectral range is an ultraviolet spectral ranges. Therefore it would have been obvious for one ordinarily skilled in the art at the time the invention was made to replace the projected light of Baudat with the laser with multiple selection of wavelengths in order to have more selection of light projections.

***Conclusion***

14. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

***Contact Information***

15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to CLAIRE WANG whose telephone number is (571)270-1051. The examiner can normally be reached on M-F 9am-6pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian Werner can be reached on 571-272-7401. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Claire X. Wang/  
07/16/2009

/Brian P. Werner/  
Supervisory Patent Examiner, Art Unit 2624